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Depth-zero Character Sheaves

In this talk we describe the correspondence between characters of depth-zero supercuspidal representations of p -adic groups and coefficient systems on the Bruhat–Tits building of perverse sheaves. Simple objects in this category are called *depth-zero character sheaves*. We associated a distribution to each depth-zero character sheaf which can be used to recover character values. Although the correspondence does not match irreducible representations with depth-zero character sheaves, the distributions associated to depth-zero character sheaves appear naturally when studying L -packets of representations. We will also indicate how depth-zero character sheaves may be viewed as objects in a derived category of ℓ -adic sheaves on a rigid analytic space; this perspective suggests how to build sheaves for the characters of a more general class of admissible representations.